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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/936,117	02/01/2002	Thomas Hofer	P/2107-186	9525
2352	7590	04/07/2006	EXAMINER	
OSTROLENK FABER GERB & SOFFEN 1180 AVENUE OF THE AMERICAS NEW YORK, NY 100368403			ECHELMAYER, ALIX ELIZABETH	
			ART UNIT	PAPER NUMBER
			1745	
DATE MAILED: 04/07/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/936,117

Applicant(s)

HOFLER ET AL.

Examiner

Alix E. Echelmeyer

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on Oct 21 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-10 and 14-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-10, and 14-42 is/are rejected.
- 7) ☒ Claim(s) 4,8, 9, 28, 30, 35, and 36 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. This Office Action is responsive to the amendment filed on 10/21/2005. Claims 1, 6, 22, 30, 36, and 37 have been amended. Claims 1, 3-10, and 14-42 are pending and are rejected for reasons given below.

### ***Claim Objections***

2. Claims 17 and 37 are no longer objected to because appropriate corrections have been made. Corrections made to claim 30 are noted but claim 30 is objected to for another reason listed below.

3. Claim 36 is objected to because of the following informality:

In claim 36, "bundles of carbon fibers, together with metal wires" should be "bundles of carbon fibers together with metal wires".

Appropriate correction is required.

4. Claims 4, 8, 9, 28, 30, 35, and 36 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claims, or amend the claims to place the claims in proper dependent form, or rewrite the claims in independent form. Claim 1, on which all of the listed claims are dependent, defines two types of bundles of which the braid can be made: bundles of carbon fibers or bundles of metal wires. The language used in claims 4, 8, 9, 28, 30, 35, and 36, "bundles of carbon fibers and/or metal wires" makes the following types of bundles: bundles of carbon fibers, bundles of metal wires,

bundles of carbon fibers braided with bundles of metal wires, or bundles containing both carbon fibers and metal wires. Since claims 4, 8, 9, 28, 30, 35, and 36 are broader than claim 1, on which they are all dependent, they fail to further limit the subject matter of claim 1.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

6. Rejections of claims 6, 22, and 36 are withdrawn due to applicants' corrections.
7. Claims 1, 3-10, and 14-42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, specifically the phrase "bundles of one of carbon fibers and metal wires", the improper phrasing of the Markush group renders the claim indefinite because it is unclear which members of the group are part of the claimed invention. Markush groups must be stated in the alternative, of which one acceptable form is "...selected from the group consisting of A, B and C." See MPEP § 2173.05(h).

Claims depending from claims rejected under 35 USC 112, second paragraph are also rejected for the same.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 4-7, 14, 16, 17, 18, 20-28, 34 and 35 are rejected under 35 U.S.C. 102(b) as being anticipated by Lawson et al. (US Patent No. 4,420,544) and as evidenced by Datasheet for Tubular Braids ( [online]. Omegaflex, Inc.-Manufacturers of Flexible Metal Hose and Braid Products. [retrieved on 2004-05-09]. Retrieved from the Internet: <URL: <http://www.omegaflex.com/braid>>).

Lawson et al. disclose a tubular fuel cell (tubular composite) comprising an open-ended ion-exchange hollow fibers (the layer of ion-selective membrane such as NAFION which is a perfluorosulfonic acid polymer) having a layer of catalyst deposited on the inner surface thereof and a first current collector in contact with the catalyst layer (see abstract; col. 4, lines 40-68, col. 6, lines 42-55 and Figure 1).

The inside diameter of the tubular composite is generally from 0.5 mm to 5.0 mm and fibers having diameters as small as 0.2 mm are available (col. 4, lines 40-45).

The first current collector is formed of a non-reactive metallic wire material and may be a braided wire mesh sleeve that can be easily slipped into the interior surface of the fine filamentary hollow fiber tube and the sleeve will expand into intimate contact with the catalytic electrode surface (col. 4, lines 1-19). Lead wire 28 connects the first current collector to terminal 30 (col. 3, lines 60-67). As seen in Figure 1, the axis of the metal wire 28 is oriented parallel to a longitudinal direction of the tubular fuel cell and in

contact with the current collector. Though only a single tubular composite is shown in the figure of the reference, multiple tubular composites can be attached to a common gas header by potting the ends of the tube into adhesive and inserting them into a funnel shaped member and these multiple tubular composites can be inserted into a single body of electrolyte and may be connected in series or in parallel (col. 4, lines 11-39).

Although the Lawson et al. reference does not explicitly disclose that the braided wire mesh sleeve comprises a braid comprising bundles of metallic wires, the process of braiding metallic wire to form hollow metallic sleeves inherently involves braiding more than one metal wire at a time such that more than one metal wire reads on bundle of metallic wires. As evidenced by Datasheet for Tubular Braids ([online]. Omegaflex, Inc.-Manufacturers of Flexible Metal Hose and Braid Products. [retrieved on 2004-05-09]. Retrieved from the Internet: <URL: <http://www.omegaflex.com/braid>>), the data sheet states that a tubular braid is manufactured by grouping single wires and then braiding them into an intricate pattern.

### ***Response to Arguments***

10. Applicant's arguments filed on October 21, 2005 have been fully considered but they are not persuasive. Regarding applicants' argument that Lawson et al. does not teach electron-conducting means using both carbon fibers and metal wires, claim 1 of the application as it is presently entered is understood by the examiner to be written in the alternative. Thus, either carbon fibers or metal wires could be used to make the

braid. Lawson et al. teach the use of braided metal wires as an electron-conducting material.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "an evenly distributed and constant force is exerted on the individual layers of which the composite is comprised") are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Regarding applicants' argument that Lawson et al. does not emphasize the use of a braid over the use of a spiral for either the outer or the inner current collector, Lawson et al. actually does say that a braid is preferable for the inner current collector (col. 4, lines 3-5). Further, a reference does not need to state that one shape is preferable to another; as long as a reference mentions a shape, then it discloses the use of that shape.

### ***Conclusion***

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

Art Unit: 1745

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alix E. Echelmeyer whose telephone number is 571-272-1101. The examiner can normally be reached on Mon-Fri 7-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
PATRICK JOSEPH RYAN  
SUPERVISORY PATENT EXAMINER

Alix E Echelmeyer  
Examiner  
Art Unit 1745

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